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ABSTRACT

In American culture, although literacy is an integral part of daily life, little is known about the development of teaching of early literacy skills to young children with disabilities. This study examined the effects of a comprehensive early literacy curriculum designed for use with preschool children, focusing primarily on children with disabilities. The goal was to examine effects on early language and literacy measures among three preschool populations: (1) children with disabilities; (2) children who are at risk of effects from economic disadvantage; and (3) children who are developing "normally." The study was conducted over a 2-year period, using a population of 70 children. Data were collected from inclusive classrooms in a child development center and self-contained classrooms in the public schools. Measures included the Woodcock-Johnson Psycho-Educational Battery-Revised (WJ-R) and the Early Literacy Checklist. Activities designed to facilitate skills in print awareness, metalinguistic awareness, and oral language were implemented over a 6-month period with the three preschool populations. Both the children with disabilities and the children at-risk made significant gains on standardized and criterion-referenced measures of language, early literacy, and metalinguistic awareness. (Appendices contain sample learning activities, including shared storybook reading, nursery rhymes, and show and tell. Contains 54 references.) (BGC)

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Facilitating language and literacy development in preschool children:To each according to their needs

ED 395 692

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Abstract

This study examines effects of a comprehensive early literacy curriculum designed for use with preschool children manifesting a range of ability levels, but focussing primarily on children with disabilities. Activities designed to facilitate skills in print awareness, metalinguistic awareness, and oral language were implemented over a six-month period with three preschool populations: children with disabilities, children at-risk, and children who were developing normally. A total of 70 children participated in the study. Both the children with disabilities and the children at-risk made significant pretest to posttest gains on standardized and criterion-referenced measures of language, early literacy, and metalinguistic awareness.

Literacy is a complex social, psychological, and linguistic activity. Literacy development begins in the very early years and is a continuous process, directly linked to early oral language and social interactions. Literacy, defined by Snow (1983) as "activities and skills associated directly with the use of print," is not restricted to reading and writing. Children participate in literacy activities when they listen to stories, help adults follow cooking recipes, memorize logos, draw pictures, scribble unintelligibly, or invent spellings. These activities help children construct their understanding about what it means to be literate in our culture. This knowledge forms a foundation for later, more formal learning about literacy in the early school years (Wells, 1985).

This broad perspective, called the emergent literacy approach, brought about two important changes for early education and intervention practices. Traditionally, preparation for formal reading and writing focussed on preacademic "readiness" activities consisting of fine and gross motor skills with little relationship to reading (Anderson, Hiebert, Scott, & Wilkinson, 1985). The reading readiness approach led to the misconception that many children with disabilities who are often delayed in these areas are not "ready" to interact with print (Koppenhaver, Coleman, Kalman, & Yoder, 1991). Now widely accepted is the critical role in literacy development of children's early experiences with caregivers around picture book routines, language play with songs and nursery rhymes, and identifying familiar environmental signs and print. Preschool programs are expanding their curriculum to include literacy interventions with younger children and children with disabilities.

Second, in our culture, literacy is an integral and functional part of daily life (Teale, 1984). We use forms of written language for many purposes: to communicate information by writing letters, acquire new knowledge by reading books, organize information by making lists and charts,

and guide behaviors and actions by, for example, following traffic signs. The teaching of literacy to young children with disabilities can easily take place within the context of meaningful activities and daily routines, drawing upon milieu teaching models such as incidental teaching (Kaiser, Yoder, & Keetz, 1993) and activity-based instruction (Bricker & Cripe, 1992; Losardo & Bricker, 1994).

Because literacy is deeply embedded in the culture of the family and community, children's experiences often vary depending on cultures and traditions. In some homes, preschool children may have less exposure to shared picture book reading experiences and the types of oral language associated with later academic success in school (e.g., Hoff-Ginsberg, 1991; Heath, 1982; McCormick & Mason, 1986; Ninio, 1980; Snow,1983; Teale, 1986). Heath (1982) found differences in home storybook reading routines and patterns of oral language that placed children from low socioeconomic status families (SES) at-risk for academic failure at the beginning of school. When looking at picture books with young children, adults often talk about events that go beyond the immediate context, as they provide explanations, make predictions, and relate personal narratives and fictional events. This form of "decontextualized"language (Snow, 1983) may be related to school literacy and appears to be less frequent in low-income families (Dickinson & Snow, 1987; Dickinson, DuTemple, Hirschler, & Smith, 1992). Considerable variability, however, occurs in literacy practices within low-income families (Payne, Whitehurst, & Angell, 1994; Teale, 1986). Marvin and Mirenda (1993) found that fewer literacy experiences were provided at home for children who were economically disadvantaged and children with disabilities than for children who were developing normally. While no differences were found for frequency and time spent reading books, differences reflected engagement in drawing and writing activities, and the use of

literacy-related oral language, such as providing explanations, making predictions, and reciting nursery rhymes and poems. Children with disabilities, in particular, received fewer literacy opportunities, and adults reported placing low priority on literacy development for these children.

In addition to early experiences with books and print, other factors also influence children's reading achievement in school. Reading is a complex developmental process involving the integration of a wide set of skills (Frith, 1986; Sawyer, 1992). Studies conducted across a range of perspectives show a broad variety of factors that influence reading ability. Storybook reading (see Bus, van IJzendoorn, & Pellegrini, 1995), letter knowledge (Chall, 1967; Foorman, Francis, Novy, & Liberman, 1991; O'Connor, Jenkins, & Slocum, 1995; Share, Jorm, Maclean, Matthews, 1984), phonological awareness (Blachman, 1994; Byrne, Freebody, & Gates, 1992; Catts, 1993; Lundberg, Frost, & Petersen, 1988; Bryant, Bradley, Maclean, & Crossland, 1989), and general language abilities (Bowey & Patel, 1988; Scarborough, 1990) all play their role in the ease with which children learn to read. In particular the consistent link between early metalinguistic awareness skills and later reading has aroused interest in teaching phonological skills to young children in preschool. Rhyming, blending, and segmentation have been taught successfully to preschool children who were developing normally (Bradley & Bryant, 1985; Byrne & Fielding-Barnsley, 1991).

In general, studies examining effects of early literacy instruction with preschool children at-risk (e.g, McCormick, Kerr, Mason, & Gruendel 1992; Pellegrini, Perlmutter, Galda, & Brody, 1990; Slocum, O'Connor, & Jenkins, 1993; Whitehurst, Arnold, Epstein, Angell, Smith, & Fischel, 1994) have focussed on specific aspects of literacy acquisition (e.g., storybook reading, print concepts, or phonological tasks). The few studies that included preschool children with disabilities

also addressed either emergent literacy activities (Katims, 1991) or phonological tasks (O'Connor, Jenkins, Leicester, & Slocum, 1993).

At the same time it is recommended that preschool programs expose children to a diversity of print awareness, general language and phonological experiences at home and at school (Schickedanz, 1989; Sulzby & Teale, 1991; Watson, Layton, Pierce, & Abraham, 1994; Whitehurst, Epstein, Angell, Payne, Crone, & Fischel, 1994). Whitehurst et al. (1994) implemented a comprehensive emergent literacy intervention that included both a shared picture book reading component and a phonemic awareness curriculum with Head Start children, and found significant effects on literacy and language measures for the children who participated in the program, compared to a control group.

Little is known about the development and teaching of early literacy skills to young children with disabilities (Marvin & Mirenda, 1993; Wolery & Brookfield-Norman, 1988). This study examines effects of a comprehensive early literacy curriculum designed for use with preschool children manifesting a range of ability levels, but focussing primarily on children with disabilities. Our goal was to examine and compare effects on early language and literacy measures among three preschool populations: children with disabilities, children who were at-risk because of economic disadvantage, and children who were developing normally.

Methods

Setting and Participants

We conducted the study over a two-year period, and collected data from integrated classrooms in a child development center and self-contained classrooms in the public schools during

the first year, and from a Head Start program during the second year. In both years, the curriculum activities were implemented over a six-month period.

Two preschool classrooms were full day integrated preschool programs in a child development center. Each class had two teachers and one teaching assistant for approximately 20 children, of which 4 received special education services. The teachers had Bachelor degrees in Child Development.

Three classrooms were in self-contained preschool programs in public school settings. Each had one teacher and one teaching assistant for approximately 10-12 children who qualified for special education services. Programs were half-day, so each teacher worked with separate groups of children in the morning and in the afternoon. These teachers had Master's degrees in Special Education.

The Head Start classroom was staffed by one teacher and two teaching assistants for two half-day programs with approximately 18 children in each program. The Head Start teacher had a Bachelor degree in Child Development.

Children

We obtained parent consent to test a total of 70 children of which 21 were non disabled, 13 were environmentally at-risk, and 36 qualified for special education services. State eligibility guidelines for preschool special education are non-categorical prior to age 6, and all children are made eligible under the status of "developmentally delayed." The "developmentally delayed" eligibility classification includes children with scores that are at least 1.5 standard deviations below the mean in two or more areas of cognitive, language, social, gross motor, and fine motor

development; or 2 standard deviations below in one area. According to teachers' reports, of the 36 children who qualified for special education services, 11 presented speech and language problems, eight presented mild general delays, seven moderate to severe developmental delays (four of which also presented significant motor impairments), four presented severe socio-emotional problems, and six presented significant visual impairments. The children who were developing normally were primarily Caucasian from middle to upper class environments; the children at-risk were primarily African-American from low income families. Two-thirds of the children with disabilities were from non Caucasian backgrounds, primarily African-American, and from low and middle income environments.

Other information regarding the distribution of children's age, gender, ethnicity, SES, and education level of the primary caregiver are presented in Table 1.

Insert Table 1 about here

Measures

Woodcock-Johnson Psycho-Educational Battery-Revised (WJ-R) (Woodcock & Johnson, 1989, 1990). The WJ-R is a wide-range, comprehensive set of individually administered tests for measuring the cognitive abilities, scholastic aptitudes, and achievement of individuals aged from 24 months to 95 years of age. We used standard scores from two subtests: the Letter-Word Identification subtest and the Dictation subtest. For ages 4 through 6, internal consistency reliability coefficients for the Letter-Word Identification subtest range from .92 to .97, and for the Dictation subtest internal reliability coefficients ranged from .86 to .94 . In the Letter-Word Identification subtest, children match pictures, and identify letters and words. On the Dictation subtest, children

copy figures, and write letters or words.

Peabody Picture Vocabulary Test-Revised (PPVT-R) (Dunn & Dunn, 1981). We used the standard scores from the PPVT-R, a norm-referenced test that evaluates semantic information comprehension of subjects 2.5 years old through adulthood. The test requires the child to choose from four pictures by pointing to the one named by the examiner. The PPVT-R is a widely used measure that presents excellent standardization, reliability and validity (Sattler, 1988).

The Developing Skills Checklist (DSC) (CTB, 1990). The Developing Skills Checklist (DSC) is a normed assessment that measures a range of skills and behaviors that children typically develop between preschool and the end of kindergarten. The Print Concepts component of the DSC measures skills that are important to reading development in young children. Beginning items ask children to open a book, turn the pages, and identify pictures. Later items assess children's ability to differentiate print from pictures, and to identify components of written communication, such letters, words and sentences. Age norms are based on a total sample of over 5,000 children aged from 4 through 6 from diverse geographic areas, socioeconomic levels, and ethnic backgrounds, and includes children enrolled in special education programs. Split-half reliability for the Print Concepts component is .84. The test yields raw scores (ranging from 0 to 21), normal curve equivalents (NCE), national percentiles, and stanines. We used the Print Concepts NCE and raw scores for this component. The Drawing and Writing components require children to draw a person, to print their names and to write a message. We used raw scores for these components. Total scores for the Writing range from 0 to 15 and from 0 to 7 for the Drawing. No norms are available.

Early Literacy Checklist (Notari-Syverson & O'Connor, 1994). The Early Literacy Checklist

is a 75-item curriculum-based assessment developed by the authors. It comprises three sections which correspond to the curriculum components: Print Awareness, Metalinguistic Awareness, and Oral Language. Items cover a broad spectrum of literacy and language behaviors to generate assessment information useful for the full range of levels and abilities of children in special education classrooms. Each component contains 25 items. A score of 2 is assigned for behaviors that children demonstrate consistently, a score of 1 is assigned for behaviors that children can accomplish partially or with help, and a score of 0 is assigned for skills children are not yet performing. Initial field-testing showed that typically developing children reached a ceiling on the checklist at the beginning of kindergarten. Preliminary inter observer agreement on a sample of 23 children was 0.92 percent. Content was reviewed by two experts in language and literacy from the field of Early Childhood Special Education. Using data from this study, Pearson product moment correlations were calculated between the total scores for each of the checklist components and the standardized outcome measures. For the Print Awareness component correlations were 0.52 (n=60) with the WJ-ID standard scores , 0.68 (n=59) with the WJ-D standard scores, 0.62 (n=56) with the PPVT-R standard scores, and 0.49 (n=39) with the Print Concepts NCE. For the Metalinguistic Awareness Component, correlations were 0.59 (n=60) with the WJ-ID, 0.64 (n=59) with the WJ-D, 0.71 (n=56) with the PPVT-R, and 0.42 (n=39) with the Print Concepts. For the Oral Language component, correlations were 0.61 (n=60) with WJ-ID, 0.67 (n=59) with the WJ-D, 0.64 (n=56) with the PPVT-R, and 0.65 (n=39) with the Print Concepts.

Procedure

Pretests and posttests

One of the authors and a research assistant administered the WJ-R, the PPVT-R, and the DSC to children in November and May, before and after the implementation of the curriculum activities. Eight children were not tested with the standardized tests because the tests were not suitable for them (e.g., severe visual or motor impairments). The early literacy checklists were completed during an interview by one of the authors with teachers at the beginning and the end of the school year.

Teacher training

Teachers and teaching assistants met monthly with one of the authors to discuss and share implementation issues and evaluations of activities. They received information on the conceptual basis for the curriculum activities and the facilitation of early literacy development in young children. Also, one of the authors made regular classroom visits to observe implementation of the activities, and provide additional assistance to teachers as needed.

Description of activities

The preschool curriculum consisted of 62 classroom activities designed to facilitate skills in three areas: print awareness, metalinguistic awareness, and oral language. The print awareness component included activities such as looking at picture books, drawing pictures, pretending to write, making lists, and recording measurements or the weather to help children develop symbolic and conventional representational abilities, and learn about the conventions of representing language in print. The metalinguistic activities consisted of nursery rhymes, rhymed stories, and rhyme production; musical activities involving clapping and dancing to syllabic rhythms; and functional

reading and writing activities that provided opportunities to practice the identification of sounds and phonemes. The oral language activities focussed on facilitating children's pragmatic and syntactic language and vocabulary, as well as "literate" types of oral discourse (e.g., asking children to reconstruct past events, open-ended questioning, asking for explanations). Each classroom activity included a theoretical rationale, a description of materials and procedures, a list of literacy behaviors, and suggestions for teaching strategies and adaptations for children with disabilities. The concept of scaffolding (Wood, Bruner, & Ross, 1976) served as the conceptual basis for designing the teaching strategies to show how teachers could facilitate the participation of children at different levels to learn different skills, and vary the presentation of strategies and intensities of support according to children's needs.

Fidelity of implementation

Over the six-month period teachers selected activities from the preschool curriculum to implement, and sent home copies of parent-child activities. Teachers kept a daily activity log of the activities they used and the frequency, and use of modifications in activities for particular children. Teachers reported that they implemented between one to four activities daily. Activities such as reading lunch menus, weather reports, calendar, and storybook reading took place daily. Activities such as "Show and Tell" and musical activities took place weekly, while others that required planning and materials preparation (e.g., Obstacle Course, Following Recipes, Making Maps) were implemented only once during the school year. There was substantial variability among teachers in the numbers of written activity logs completed. During monthly meetings and formal interviews, however, all teachers reported that they indeed implemented activities daily. Also, we conducted

regular visits to the classrooms to observe teachers implementing activities, provide additional assistance and modeling of activities at the teachers' request, and document implementation through videotaping.

Results

We conducted a series of 3 x 2 repeated measures ANOVAs using Type III sums of squares (Abacus, 1989). Group by time interactions were partitioned to assess and compare the differential effects of the early literacy curriculum on the three groups of children. Pretest and posttest means for the three groups of children are presented in Table 2.

Insert Table 2 about here

Significant group effects were found on standard scores for all the measures (all ps<0.004). Results also showed significant time effects for the PPVT-R, $F(1,51)=12.43$, $p<0.001$; the WJ-ID, $F(1,54)=15.17$, $p<0.001$, and the WJ-D, $F(1,53)=36.64$, $p<0.001$. Group by time interactions were significant for the PPVT-R, $F(2,51)=10.66$, $p<0.001$, the WJ-ID, $F(2,54)=3.04$, $p<0.05$, and the WJ-D, $F(2,53)=6.01$, $p<0.004$. Children with disabilities made greater gains than children who were developing normally on the PPVT-R, $F(1,51)=16.67$, $p<.001$, as did also the children at-risk, $F(1,51)=16.22$, $p<.001$. Children at-risk made more gains than the children who were developing normally on the WJ-D, $F(1,54)=16.67$, $p<.001$, while children with disabilities made greater gains than the children who were developing normally on the WJ-ID, $F(1,54)=5.64$, $p<.02$.

Children with disabilities and children at-risk made significant pre to posttest gains on the standard scores from the WJ-ID ($p<.001$, and $p<.01$ respectively), the WJ-D ($p<.001$, and $p<.001$

respectively), and the PPVT-R (both ps<.001). Children with disabilities also made significant gains on the normed measure of Print Concepts (p<.03). The children who were developing normally continued to develop at the rate expected for all measures.

At pretest, the children who were developing normally scored consistently higher than the children at-risk, and the children at-risk scored consistently higher than the children with disabilities on all of the standardized measures. At posttest, however, the performance of the children at-risk did not differ significantly from the children who were developing normally on the two WJ-R subtests.

On the non standardized scores of the DSC, group by time interactions were significant for the Print Concepts raw score, $F(2,47)=5.39$, $p<0.008$, with the children with disabilities making greater gains than the children who were developing normally, $F(1, 47)=10.59$, $p<0.002$. All three groups of children made significant pre to posttest gains in Writing and Drawing (all ps<.004). The children with disabilities and the children at-risk also made significant gains on the Print Concepts raw score (p<.001 and p<.003 respectively). The children at-risk and children who were developing normally did not differ significantly on these scores at pretest or posttest.

On the teacher report checklist, all groups of children made significant gains over the year in the skills targeted by the curriculum. Group by time interactions were significant for the oral language component, $F(2,66)=3.33$, $p<0.04$, with the children with disabilities making more gains than the children who were developing normally, $F(1, 66)=5.30$, $p<0.02$, and for the metalinguistic awareness component, $F(2,66)=10.24$, $p<0.001$ with the children at-risk with making more gains than the children who were developing normally, $F(1, 66)=16.98$, $p<0.001$. Significant differences

on the print and metalinguistic awareness components among groups at pretest were maintained at posttest. For oral language, no differences were found at pretest or posttest between children at-risk and children who were developing normally.

Discussion

The participation in a comprehensive early literacy program of activities resulted in significant progress in early language and literacy development for children with disabilities and environmentally at-risk. For the children with disabilities, improvement was found particularly in letter knowledge and early print concepts such as book handling and differentiating print from pictures. Katims (1991) also found that children with mild to moderate disabilities made significant gains on measures of literacy after exposure to structured literacy activities. The children with disabilities in our study also improved their language skills, particularly vocabulary. Studies have shown links between early literacy activities such as picture book reading with young children and vocabulary development (Ninio & Bruner, 1978; Sénéchal, Thomas, & Monker, 1995) and other aspects of language (Snow & Goldfield, 1983; Teale, 1984; Whitehurst, et al., 1988).

Encouraging is the finding that, at posttest, the children who were environmentally at-risk performed similarly to the children from middle to upper class family backgrounds who were developing normally on two early literacy measures (WJ-R subtests), despite their significant disadvantage before participating in the program. For preschool-age children, the skill measured in these two WJ-R subtests consisted primarily of letter knowledge, an important predictor of later reading (e.g., O'Connor et al., 1995; Share et al., 1984). On the Print Concepts NCE, however, the children at-risk continued to score lower than the children who were developing normally. While

successful on early items on the test that assessed knowledge of book conventions, the children at-risk began to have difficulties with the later items that measured print awareness behaviors and involved metalinguistic and metacognitive abilities (e.g., "What do the words tell us?", "Show me a whole sentence."). On the Writing and Drawing components the children at-risk performed just as well at pretest and at posttest as the children who were developing normally, and who were, however, 8 months younger on average.

For language comprehension, although the children at-risk made significant progress, their scores did not attain the level of those of the Caucasian children from middle to upper income families who were developing normally. Washington and Craig (1992) tested 104 preschool and kindergarten children who spoke Black English and found lower scores on the PPVT-R compared to the national norms. At pretest, the children at-risk in our study (all African-American) scored slightly below the mean established by Washington and Craig (1992) (M=77.4), while they scored above the mean at posttest. Unfortunately, no information was available on whether the children in our study spoke Black English.

On the nonstandardized teacher report measures, the expressive language scores of the children at-risk were similar to those reported for the younger children who were developing normally at pretest and posttest. This suggests that the children at-risk may present a delay in this area which is consistent with our findings for the PPVT-R outcomes. Although their scores remained lower than the children who were developing normally, the children at-risk made significant gains in metalinguistic awareness. This is an area where intervention is needed, in light of Raz & Bryant's (1990) findings of a gap between the rhyming and phonological awareness skills

of preschool children from disadvantaged backgrounds and children from middle-class families. This gap continued to widen and later affected children's reading achievement at the beginning of school.

As no control groups were used in this study, caution must be used in attributing children's gains specifically to the effects of the early literacy curriculum, rather than to other aspects of the early intervention programs. Children's significant improvements on standardized measures, however, make it unlikely that gains are due to maturational factors alone and show that early intervention that includes an early literacy component can significantly enhance the rate of early language and literacy development of children with disabilities and children at-risk. It should also be kept in mind that norm-referenced evaluation models are somewhat questionable, particularly when used with children with disabilities (e.g., Hauser-Cram, 1990). Because so few studies are available on literacy interventions with preschool children with disabilities, the information from this study makes, however, a useful contribution.

Conclusion

Exposure to structured literacy activities during preschool can significantly enhance the early language and literacy development of children with disabilities and children who are at-risk for environmental reasons. Differences in literacy and oral language use in the home and in school may contribute to academic difficulties that children from diverse cultural backgrounds may encounter in mainstream school settings (Heath, 1982). The findings from this study show that, following a six-month exposure to early literacy experiences in preschool, children from environmentally at-risk backgrounds can make up for initial differences with white middle class children in early concepts

of literacy. Results also suggest that activity-based literacy experiences improve the language and early literacy skills of preschool children with disabilities, and may affect the trajectory of their literacy and language development in relation to their peers without disabilities. The children with disabilities in this study appeared to benefit particularly from conversations about pictures and learning early book conventions. The children at-risk appear to benefit more from experiences that emphasize letter and word recognition, and word and phonemic awareness skills.

Efforts to promote integrated programs (Peck, Odom, & Bricker, 1994) have resulted in increasing numbers of classrooms where teachers face the challenge of educating children presenting diverse educational needs and levels of functioning. Curricular approaches are needed that allow teachers to adapt instruction to meet the changing needs of individual children. This study suggests that children functioning at different levels benefit from participation in metalinguistic, phonological, and print awareness activities. The design of this study provided information on children's pre to posttest gains. Research designs that incorporate the collection of data at multiple points in time may provide more specific information about children's learning processes, such as differences in their rates of acquisition of specific skills. Studies are also needed that examine specific aspects of activities and teaching strategies that enhance children's acquisition of literacy skills. The concept of scaffolding (Wood, Bruner, & Ross, 1976), used in this study, where adults provide children with differing levels of support in learning tasks may be a useful framework for investigations to identify teaching strategies that work best with different groups of children.

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Table 1

Demographic Characteristics for Preschool Children

	Children with Disabilities (n=36)	Children At-Risk (n = 13)	Children without Disabilities (n=21)
Age at Pretest			
Mean	4-4	4-6	3-10
Standard Deviation	0.48	0.41	0.68
Gender			
female	9	8	6
male	27	5	15
Ethnicity			
Caucasian	12	0	21
African American	18	13	0
Asian American	3	0	0
Hispanic	3	0	0
SES			
Low	18	13	0
Medium	18	0	13
High	0	0	8
Education of Primary Caregiver			
Partial High School	5	2	2
High School Graduate	10	4	1
Partial College	11	2	4
College Graduate	2	1	5
Post Graduate	1	0	9
Not reported	7	4	2

Table 2

Pretest and Posttest Scores on Language and Early Literacy Measures for Preschool Children

	Children with Disabilities					Children At-Risk					Children without Disabilities				
		Pretest		Posttest			Pretest		Posttest			Pretest		Posttest	
	n	M	SD	M	SD	n	M	SD	M	SD	n	M	SD	M	SD
WJ-R Letter Word ID	27	76.96	11.57	88.48	12.93	13	91.92	9.62	102.39	8.72	17	106.47	11.04	107.53	9.49
WJ-R Dictation	27	66.78	19.13	76.26	15.60	13	85.36	6.91	102.64	11.98	16	102.94	11.95	106.44	11.78
PPVT-R	26	60.89	14.11	70.39	17.61	13	74.23	16.27	85.92	16.23	15	118.93	6.53	114.07	10.87
DSC Print NCE	19	18.84	11.43	25.32	10.00	12	42.17	13.50	44.92	15.37	4	54.75	11.70	51.50	6.61
DSC Print Raw Scores	25	3.48	3.22	8.20	3.11	12	10.67	3.28	13.67	3.14	13	12.84	2.70	13.92	3.04
DSC Drawing	29	0.86	0.64	1.52	0.63	13	1.62	0.51	3.08	1.85	12	1.25	0.75	2.33	1.37
DSC Writing	29	1.28	2.28	2.83	2.93	13	2.81	1.64	6.00	2.08	13	4.00	2.39	6.69	2.72
EL Print	36	10.58	6.78	22.18	7.66	12	16.17	5.56	29.67	7.62	21	26.21	8.90	38.52	8.14
EL Metalinguistic	36	11.53	6.20	21.08	8.55	12	10.67	1.23	30.33	3.17	21	30.19	9.50	39.10	9.38
EL Oral Language	36	16.88	11.84	29.08	12.35	12	39.08	9.87	45.83	5.83	21	39.52	7.22	46.00	5.36

Appendix

Sample Curriculum Activities

Shared Storybook Reading
Nursery Rhymes
Show and Tell

LADDERS TO LITERACY
AN ACTIVITY BOOK

For Preschoolers

Supporting Literacy Development
in Young Children

©

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Activity: SHARED STORYBOOK READING

Main Purpose: To use print as a tool to acquire knowledge

Children learn how to use books as a learning tool. Through story reading with adults, children learn about objects, people, and events in the real world. Cognitive development is facilitated by looking at books that focus on concepts such as colors, numbers, opposites, time and space. Interacting with adults and peers through story reading, as well as reading books about people and feelings, contributes to the child's social and emotional development. Through books, children also learn new vocabulary, syntax, and narrative structure.

This activity develops the following behaviors and concepts that are related to early literacy:

Print Awareness	Metalinguistic Awareness	Oral Language
Symbolic representation - pictures Print - book conventions - word awareness - letter identification Letter-sound correspondence - single sounds and letters	Memory for sounds and words - words - phrases Phonological skills - rhyming - segmentation	Semantic and syntactic knowledge - vocabulary development - syntax development Narrative Skills - structured narrations

Materials

Big books (e.g., *I Can Read Colors, The Opposite Song*) Little books
Cards with pictures or words that match those of text

Description of the Activity

Use big books to read to the large group of children during circle time, or to smaller groups. Talk about the relevant concepts in the book (colors, opposites). Call attention to the title, author, and illustrator. Read the story aloud, tracking the print by pointing a finger at each word read.

After reading aloud, ask children to recall important points and to find the corresponding part in the text. Draw children's attention to relevant features (names of colors, words that rhyme, opposites). Use visual aids (separate sheets with isolated print or pictures) to help children focus on specific words. Have children mime or sign when appropriate (opposites). Involve children by having them take turns in "reading" to each other or "teaching" their peers, asking them to label pictures or read words. Provide a "microphone" to keep them focused. Encourage children to comment on the pictures and the story, to fill in repetitive words and phrases. Ask them to predict what might happen next, to provide explanations, and to relate events to their own experiences. Invite children to mime, and to dramatize the stories. After several shared

reading experiences with the same text, give children their own little book - - a smaller copy of the big book. While you read the big book, encourage children to turn the pages of their little books, "read" along with you, and point to the print in their little book that corresponds to selected words in the big book. Send a copy of the little book home for children to share with families.

Adult / Child Interaction Behaviors

☆ Low Support

Children name single letters and recognize high frequency words.

Facilitation strategies:

- Children name letters of his or her choice. Help by isolating a familiar letter from the rest of the word. Provide verbal cues if the children do not identify the letter:
  "This is an 'm'." then ask the child: "Show me another 'm'."
- Point to important words in text (words that rhyme in *The Opposite Song*) and ask the children: "What does this word say?" Help by isolating the word from the rest of text. Provide visual cues by pointing to the first letter of the word and the corresponding picture: "This word tells us what this is a picture of."

☆☆ Medium Support

Children recognize a few memorized words.

Facilitation strategies:

- Show children the printed word isolated on a separate sheet (e.g., red)
  "What does this word say?"
  and prompt by pointing to the corresponding picture:
  "This word tells us what this is a picture of."
- If necessary, read the word and have the children imitate.

☆

☆☆ High Support

Children identify objects represented in pictures.

Facilitation strategies:

- Show a picture in the book (e.g, dinosaur) and ask:
  "What's this?"
- Provide cues: "It's a strange, big animal."
- Model and have the children imitate.

Shared Storybook Reading

Comments/Adaptations

Alternative reading materials: Newspaper and magazines with photos.
Children's diaries, notebooks, messages.

Adaptations: For children who are *visually-impaired*, prepare relief picture sequences or little books that correspond to the story being read. Select important words that appear in the story (names of main characters), translate them into braille and give them to children to hold and feel during the story reading. Use props.

For children who are *hearing-impaired*, use sign language to communicate main events and characters of the story. Make sure pictures are visible to children.

Home Link:

Parent Activity: Print in the Home
Storybook Reading Routines

More Ideas: Send home little books
Send home videotaped storybook readings for parents to view at home.

BEST COPY AVAILABLE

Activity: NURSERY RHYMES

Main Purpose: To develop awareness of the sounds of words

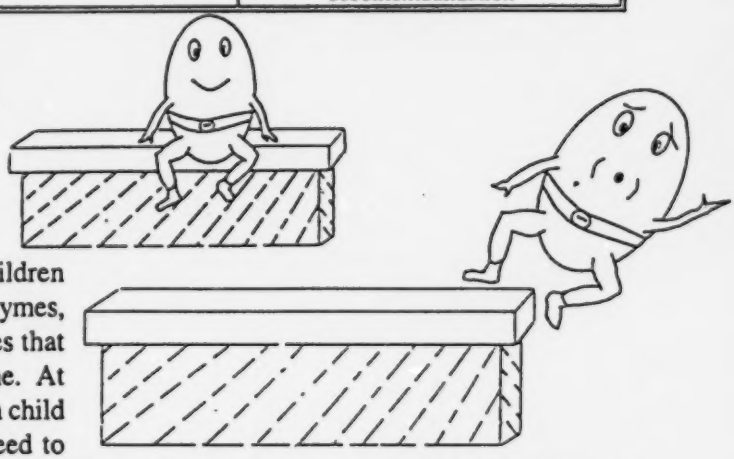
Nursery rhymes give children the opportunity to become aware of the sounds in words. By learning to recite nursery rhymes, children develop listening and auditory memory skills and learn about rhyme. The teacher should focus the children's attention on the match between the ending sounds of two or more words that rhyme.

This activity develops the following behaviors and concepts that are related to early literacy:

Print Awareness	Metalinguistic Awareness	Oral Language
Symbolic representation - pictures Print - word awareness	Memory for sounds and words - words - phrases Phonological skills - rhyming	Semantic and syntactic knowledge - vocabulary development - syntax development Narrative skills - structured narrations (events, oral story) Literate discourse - decontextualization

Materials

Picture sequence of story in nursery rhyme
Text with rhyming words highlighted
Crayons



Description of the Activity

During small group activities, show children pictures that illustrate well known nursery rhymes, accompanied by text. Use different pictures that illustrate the sequence of events in the rhyme. At least one picture should be available for each child in the group. Recite the rhyme, and proceed to sequence the pictures, eliciting the participation of the children. Encourage each child to learn to recite at least two lines of the nursery rhyme. Draw the child's attention to the words that rhyme, and write the words on the chalkboard. Toward the end of the activity, have each child color and keep one of the pictures. You can also encourage discussion about the content or story of the nursery rhyme.

Adult / Child Interactive Behaviors

☆ **Low Support**

Children recite the whole nursery rhyme and produce rhyming words.

Facilitation Strategies

- Begin the rhyme and have the children fill in parts.
- Direct children's attention to words that rhyme and have them participate in sequencing the story.
- Invite children to ask questions about objects and to comment about personalexperiences related to the story in the nursery rhyme.

  "What did the spider climb up?"

  "What is a water spout?"

☆☆ **Medium Support**

Children fill in the final rhyme in a rhyming couplet.

"Humpty-Dumpty sat on a wall. Humpty-Dumpty had a great __?"

Facilitation Strategies

- Provide the word and repeat the two verses.
- Have children recite the rhyme along with you.

☆

☆☆ **High Support**

Children listen to the rhyme and say a few words along with the teacher.

Facilitation Strategies

- Provide visual cues (pictures of a house and a mouse).
- Ask children to repeat pairs of rhyming words.

Comments/Adaptations

Comments: Flannel board figures and real props can be used as well as pictures.

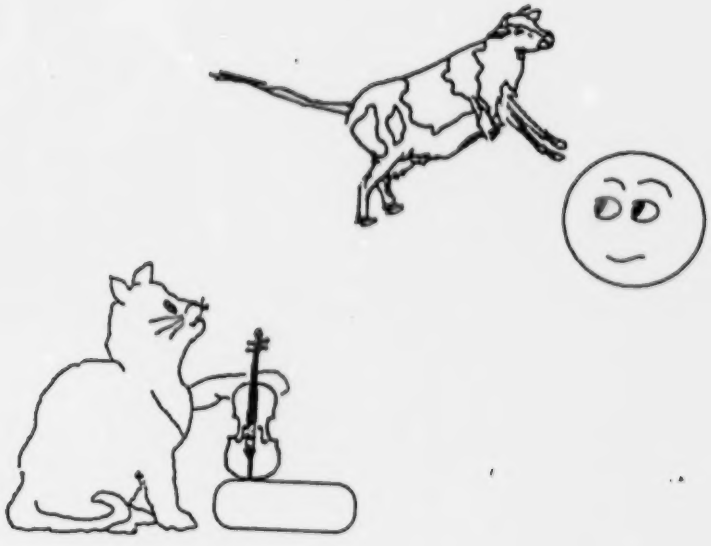
Adaptations: Use sign language, pictures, and props to assist children who have *hearing-impairments.*

Home Link:

More Ideas... Ask a librarian to help select picture books with rhymes, and enjoy these books with children.

Send home copies of rhymes with pictures for children to learn with their parents.

Tape record children as they recite the rhymes. Let children borrow the tape to play at home.



Activity: SHOW AND TELL

Main Purpose: To expand vocabulary and meanings for words

The child learns she can communicate with others through the acts of speaking, writing, and reading. This activity develops pragmatic skills of sharing information among children. It also prepares children for literate discourse through learning to answer questions, describing objects and events, and providing explanations. The teacher facilitates appropriate communication among children and elicits language features that characterize literate discourse.

This activity develops the following behaviors and concepts that are related to early literacy:

Print Awareness	Metalinguistic Awareness	Oral Language
Symbolic representation - pictures Print - word awareness - writing Letter-sound correspondence - single sounds and letters	Memory for sounds and words - words	Pragmatic skills - conversations Semantic and syntactic knowledge - vocabulary development - syntax development Narrative skills - structured narrations (events) Literate discourse - categorical organization - decontextualization

Materials

Objects chosen by children, picture of object
Written label of object

Description of Activity

Let children take turns to show and tell the other children about an object that they have brought from home. Ask each child to label and describe the object and to explain why s\he chose the object for the presentation. Encourage the other children to ask questions about the object that require literate discourse. When more than one show and tell items have been shared, ask children to make non-judgmental comparisons: "Would you play with these objects differently?"
"How are they the same?"
"How do they differ?"

Draw a picture and write the name of each object to demonstrate the connection between language and print. Direct children's attention to the relationship between the name of each object, the picture, and the written label.

My violin

My favorite musician
Mozart

Show and Tell

Adult / Child Interactive Behaviors

☆ **Low Support**

Children present information about the object using complete sentences. They relate events connected to the topic of interest. In answer to questions they provide explanations and clarifying information.

Facilitation Strategies

- Invite children to ask questions about objects and to comment about personal experiences with similar objects.
- Ask questions that require children to provide explanations and clarifications: "Why?"
- Help children reword questions. Include hints and suggestions to help children organize their explanations:
  "Why?"
  "Do you think it's because ...?"
  "How does it work? What does it do?"

☆☆ **Medium Support**

Children label and describe the object, and answer information questions.

Facilitation Strategies

- Suggest choices or model answers.

☆

☆☆ **High Support**

Children show and label the object when it is their turn.

Facilitation Strategies

- Encourage children to initiate simple communication:
  "Tell everyone the name of your favorite toy."
  "Tell us what you brought to class and what's called."

Show and Tell

Comments/Adaptations

This activity can also be done immediately after a classroom routine like playtime or snacktime. Children can recall what toy they most liked to play with or what their favorite food is.

Adaptations: Children with hearing impairments can communicate with sign language that the adult translates for the rest of the group. Teach other children basic signs.

Home Link: Encourage children to bring objects that represent their cultural backgrounds (clothing, jewelry, foods).